TE WHARE WĀNANGA O TE ŪPOKO O TE IKA A MĀUI

VICTORIA
UNIVERSITY OF WELLINGTON

School of Economics and Finance

ECON 409 ADVANCED ECONOMETRICS B

Trimester Two 2009

COURSE OUTLINE

Names and Contact Details

Course lecturer & coordinator

Professor Dean Hyslop
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Office hours: TBA

Trimester Dates

Teaching Period: Monday 13 July to Friday 16 October 2009
End of Year Study Period: Monday 19 October to Monday 26 October 2009
Examination Period: Tuesday 27 October to Saturday 14 November 2009

Note: Students who enrol in courses with examinations should be able to attend an examination at the University at any time during the formal examination period.

Withdrawal dates: Information available via
http://www.victoria.ac.nz/home/admisenrol/payments/withdrawlsrefunds.aspx

Class Times and Room
  Thursdays 8.30 – 11.20 am
  RWW 128

Course Content
ECON 409 focuses on issues and econometric modeling of three broad types of data: panel (or longitudinal) data; survival (or duration) data; and time series data. The 6 weeks of the course will cover panel data analysis: focusing on issues that motivate the use of panel data; the main econometric models used to analyse panel data; and methods to handle issues that arise in such analysis. The second 6 weeks will be divided between survival analysis and time series analysis, according to the interests and background of the students.

Course Learning Objectives
By the end of this course, students should be able to:
  1. demonstrate in-depth mastery of the theories presented of econometric models of panel, survival and time series data.
  2. assess the merits of more complicated empirical tests of these theories

Course Delivery

The first half of the course will focus on the panel data analysis; and the second half will focus on the analysis of Survival (or Duration) data, and time series analysis topics. There will be approximately four assignments throughout the course, involving a combination of theoretical and hands-on applied examples. These do not contribute to your final course grade, but will greatly contribute to understanding the material.

Weeks 1–6:
Panel data methods and models
- Static linear panel data models
- Dynamic linear panel data models
- Static non-linear panel data models
- Dynamic non-linear panel data models

Weeks 7–12:
Survival analysis
- Details TBC

Time series analysis
- Details TBC

Expected Workload

You are expected to spend roughly 150 hours completing this course. This includes preview, lecture attendance, and review and study for assignments and exams. On average this is roughly 10 hours per week from the start of the course until the final exam, but the load may vary over time and across students.

Readings

No set text book is assigned for this course. However, the following texts may be useful references. In addition, relevant journal articles and chapters will be assigned throughout.

General

Davidson, Russell, and James G. MacKinnon (1993), *Estimation and Inference in Econometrics*, Oxford University Press.

Panel data analysis

Texts:

Baltagi, Badi (1995), *Econometric Analysis of Panel Data*, John Wiley & Sons.

Hsiao, Cheng (2003), *Analysis of Panel Data*, 2nd ed (or 1st ed 1986), Econometric Society Monograph (No. 34), Cambridge University Press.

Wooldridge, Jeffrey (2002), *Econometric Analysis of Cross Section and Panel Data*, MIT Press.

Articles:

* Chamberlain, Gary (1986), "Panel Data", *Handbook of Econometrics*, Chapter 22 in Vol. 2, Elsevier Science B.V.

Linear modelling

Ashenfelter, Orley and David Zimmerman (1997), "Estimates of the Returns to Schooling from Sibling Data: Fathers, Sons and Brothers", *Review of Economics and Statistics*, 79, 1-9.

* Jakubson (1991), "Estimating and Testing of the Union Wage Effect Using Panel Data", *Review of Economic Studies*, 58, 971-991.

Mundlak, Yair (1978), "On the Pooling of Time Series and Cross-section Data", *Econometrica*, 46, 69-85.

Hausman, Jerry A. and William E. Taylor (1981), "Panel Data and Unobservable Individual Effects", *Econometrica*, 49, 6, 1377-1398.

* Anderson, T.W. and Cheng Hsiao (1982), "Formulation and Estimation of Dynamic Models Using Panel Data", *Journal of Econometrics*, 18, 67-82.

* Arellano, Manuel, and Stephen Bond (1991), "Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations", *Review of Economic Studies*, 58, 277-297.

Non-linear modelling

* Chamberlain, Gary (1980), "Analysis of Covariance with Qualitative Data", *Review of Economic Studies*, Vol. 47, No. 3, 225-238.

Chay, Kenneth Y. and Dean Hyslop (2001), "Identification and Estimation of Dynamic Binary Response Panel Data Models: Empirical Evidence Using Alternative Approaches", Manuscript.

Jakubson, George (1988), "The Sensitivity of Labor-Supply Parameter Estimates to Unobserved Individual Effects: Fixed- and Random-Effects Estimates in a Nonlinear Model Using Panel Data", *Journal of Labor Economics*, Vol. 6, No. 3, 302-329.

Chamberlain, Gary (1985), "Heterogeneity, Omitted Variable Bias, and Duration Dependence", in James Heckmand and Burton Singer (eds), *Longitudinal Analysis of Labor Market Data*, Cambridge University Press.

Cox, D. R. (1958), "The Regression Analysis of Binary Sequences", *Journal of the Royal Statistical Society*, Series B, Vol. 20, pp. 215-232.

Heckman, James J. (1981a), "Statistical Models for Discrete Panel Data", Chapter 3 in Manski, Charles and Daniel McFadden (eds), *Structural Analysis of Discrete Data*, MIT Press, Cambridge, MA.

Heckman, James J. (1981b), "The Incidental Parameters Problem and the Problem of Initial Conditions in Estimating a Discrete Time-Series Data Stochastic Process", Chapter 4 in Manski, Charles and Daniel McFadden (eds), *Structural Analysis of Discrete Data*, MIT Press, Cambridge, MA.

Heckman, James J. (1981c), "Heterogeneity and State Dependence", in Sherwin Rosen (ed), *Studies in Labor Markets*, University of Chicago Press.

Honoré, Bo and Ekaterini Kyriazidou (200), "Panel Data Discrete Choice Models with Lagged Dependent Variables", *Econometrica*, 68, 839-874.

Hyslop, Dean R. (1999), "State Dependence, Serial Correlation and Heterogeneity in Intertemporal Labor Force Participation of Married Women", *Econometrica*, 67(6), pp 1255-1294.

Roberts, Mark J. and James R. Tybout (1997), "The Decision to Export in Columbia: An Empirical Model of Entry with Sunk Costs", *American Economic Review*, 87(4), 545-564.

Survival analysis

Texts:
Lancaster, Tony (199), *The Econometric Analysis of Transition Data*, Econometric Society
    Monographs (No. 17), Cambridge University Press.

More readings to follow

Time series analysis
Texts:
Hamilton, James (1994), *Time Series Analysis*, Princeton University Press.
Harvey, Andrew (1991), *The Econometric Analysis of Time Series*, 2nd ed, MIT Press.

More readings to follow

Materials and Equipment
There is no prescribe econometric software for this course, however I will assume that you are
sufficiently familiar with some software from previous courses, and will discuss availability
etc during the first week. Preferred software includes GAUSS, MATLAB and R, however
others such as EVIEWS and STATA may also be suitable. I am sufficiently familiar with
GAUSS and STATA to be able to provide advice, but less so (if at all) on others.

Assessment Requirements
Assessment will be based on a two hour midterm exam and a two hour final exam. The
midterm exam will be held soon after the mid-trimester break, at a time to be determined, and
will cover material from the first half of the course. The final exam will be scheduled by the
University in the trimester two examination period, and will cover material from the second
half on the course. The overall assessment will be:

- 50% from the midterm exam
- 50% from the final exam

*Note: Your assessed work may also be used for quality assurance purposes, such as to assess the level
    of achievement of learning objectives as required for accreditation and audit purposes. The
    findings may be used to inform changes aimed at improving the quality of FCA programmes. All
    material used for such processes will be treated as confidential, and the outcome will not affect
    your grade for the course.*

Examinations
The final two hour examination for this course will be scheduled at some time during the
period from Tuesday 27 October to Saturday 14 November 2009.

Penalties
Coursework submitted late will not be graded.

Mandatory Course Requirements
Mandatory course requirements will be satisfied if all assessment requirements are completed.

Communication of Additional Information
Additional information or information on changes will be conveyed to students via email and
Blackboard.

For the following important information follow the links provided:

Academic Integrity and Plagiarism
http://www.victoria.ac.nz/home/study/plagiarism.aspx

General University Policies and Statutes
http://www.victoria.ac.nz/home/about/policy/academic.aspx

Faculty of Commerce and Administration Offices
http://www.victoria.ac.nz/fca/studenthelp/Contactus.aspx

Manaaki Pihipihinga Programme
http://www.victoria.ac.nz/st_services/mentoring/